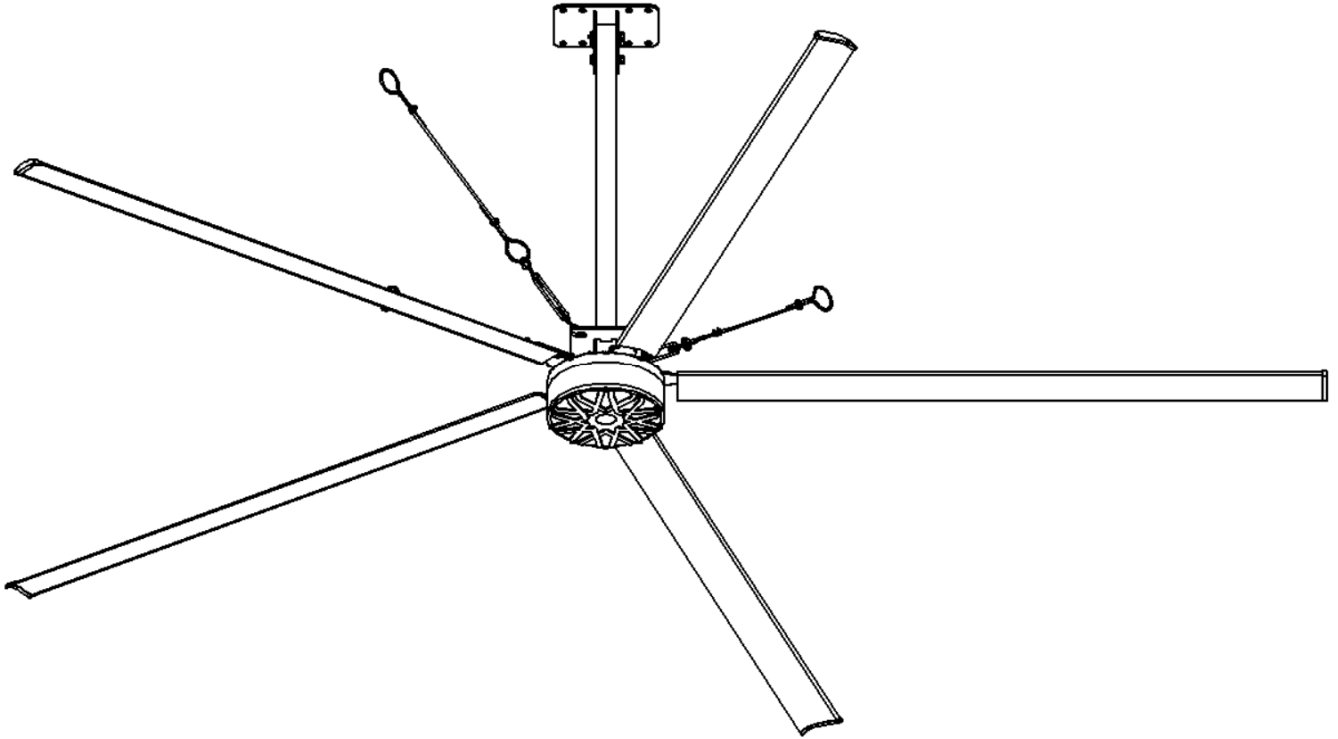


User Manual



Item #42005 -BK

Thank you for purchasing this product! To ensure proper understanding and installation, please read this manual carefully.

1.Safety Precautions

General

Some diagrams in the Installation Flow Chart are shown in exploded view to clarify the installation procedure. Operate the unit in strict accordance with this manual.

- Danger

Please read this manual carefully before installation.

- In order to prevent electric shock:

Unauthorized personnel are prohibited from repairing, inspecting or replacing components.

Do not perform wiring within 1 minute of power ON/OFF, as this may cause electric shock (capacitors

retain residual charge shortly after power disconnection)

When replacing or moving the power supply, disconnect power and wait until all indicators are off for 1 minute before operation .

- Warning

Use only the controller specified for this model. Using an incompatible controller may damage the motor or controller.

Before operation, please confirm that power connections match markings and that no obstacles within the operating range . After operation, verify correct rotation direction (clockwise as viewed from below).

This product shall not be operated in freezing, corrosive, explosive and a severely dusty environment.

- Installation

Installation and maintenance must be performed by professionally trained, experienced personnel with electrician certificates.

2.Introduction

1.Equipped with a rare-earth NdFeB permanent-magnet disc-type external rotor motor, directly driving the fan blades; features a simple structure and is maintenance-free for long-term use.

2.Blades are made of high-strength aluminum alloy with aviation wing shapes design.

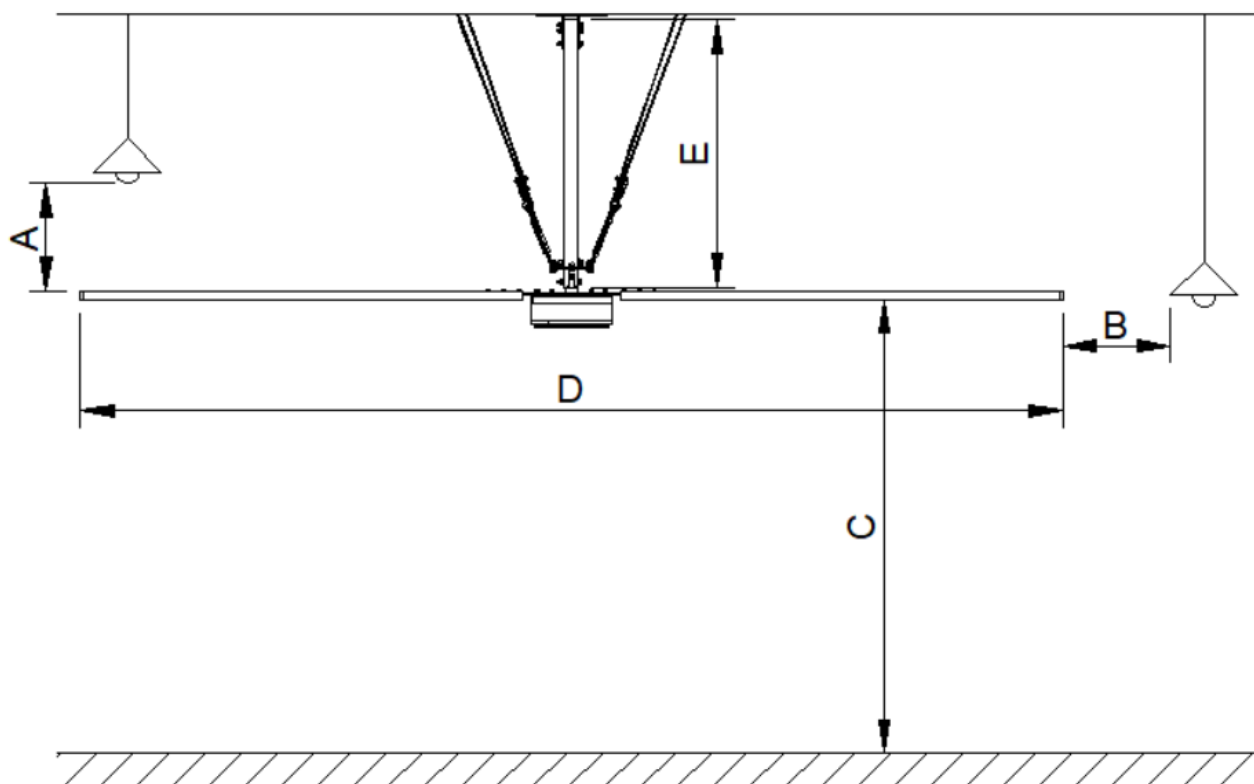
3.The suspension system allows multi-angles adjustment and automatically verticality.

4.Suitable for heatstroke prevention,cooling,ventilation,and accelerated air circulation in large logistics warehouses, distribution centers, large factories, public buildings, large-scale farms,stations,sports venues,and other places.

3. Technical Parameters

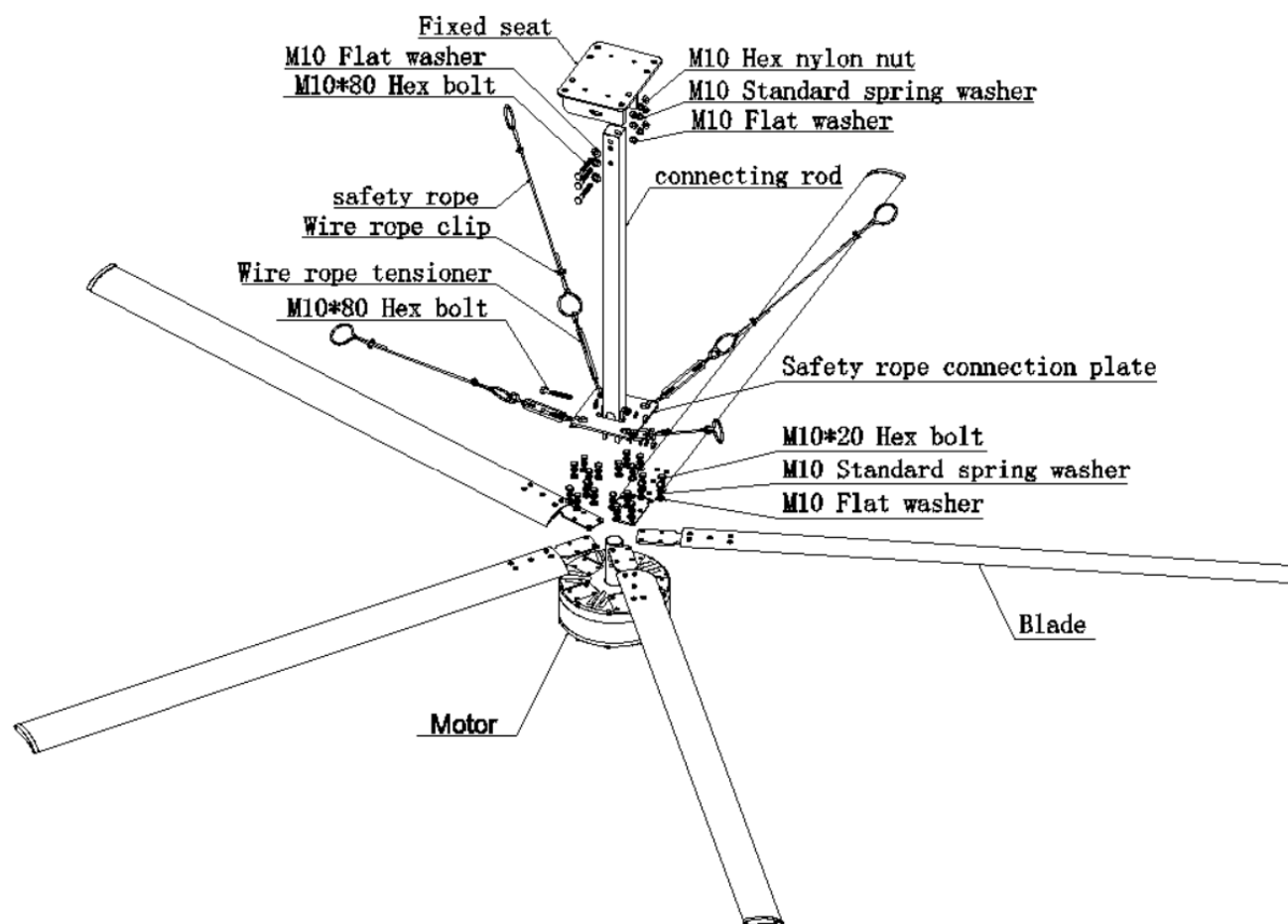
Model	Diameter (m)	Footprint (in)	Power (KW)	Voltage (V)	Frequency (Hz)	Airvolume (m3/min)	Rotting Speed (rpm)	Number Of blades (PC)	Noise (dBA)	Motor weight (kg)	Fan weight (kg)	Coverge area (m ²)
42005-BK	3.66	144	0.2	120V1Ph	60Hz	4200	10-81	5	36	18.5	10	350

4.Installation Data



Model	Vertical obstacle distance A	Horizontal obstacle distance B	Distance from leaf surface to ground C	Overall machine diameter D	Downrod length E
42005-BK	$\geq 400\text{mm}$		2.5-5m	3.66m	500-1500mm

5.Fan Structure



5.1 Unpack the product and verify that all accessories are complete.

Accessories:

PARTS LIST			
Name	Qty	Name	Qty
Motor assembly	1	M10 Standard spring washer	28
Blade	5	M10 Hex nylon nut	6
1m connecting rod	1	15m Electrical cable	1
0.6m connecting rod	1	15m corrugated tube	1
Fixed seat	1	U-shaped bolt	2
Safety rope connection plate	1	M12 Flat washer	4
25m Safety rope	1	M12 Standard spring washer	4
Wire rope tensioner	4	M12 Hex nylon nut	4
Wire rope clip	18	M10*145 Eye bolt anchor	4
M10*80 Hex bolt	6	Ø 16*150 Expansion bolts	4
M10*20 Hex bolt	21	controller	1
M10 Flat washer	33		

6.Installation Steps

Install the fan using suitable supports and fasteners based on the building structure. Ensure installation complies with local safety regulations. All electrical work must be performed by qualified electricians and comply with local, state, and national electrical codes.

6.1Install the fixed seat

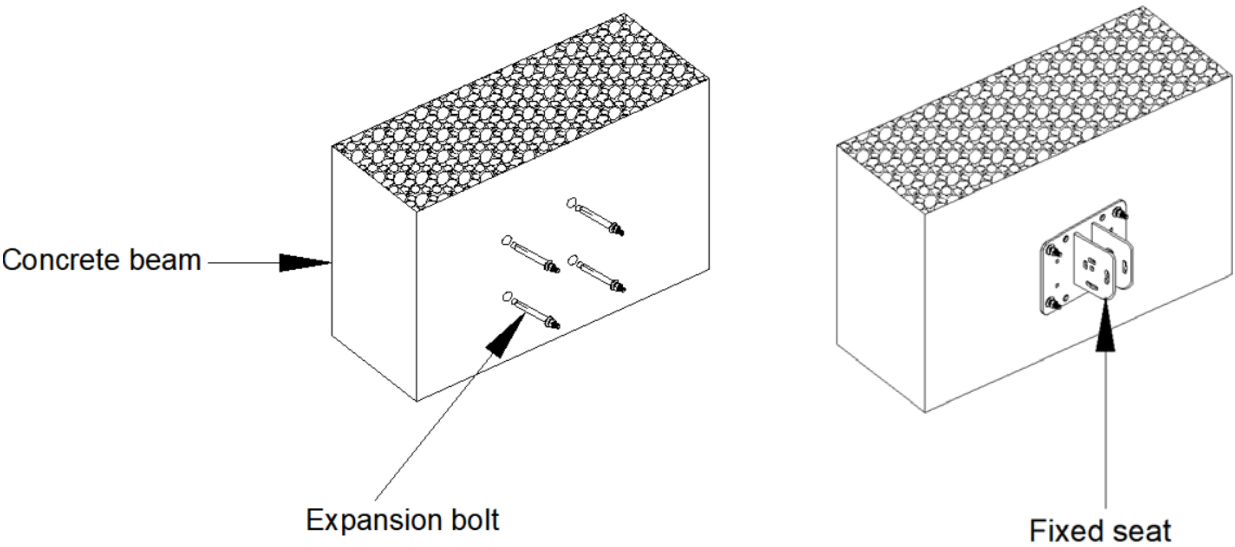
Note: When installing the fixed seat, ensure vertical and horizontal alignment.

● Concrete beam structure

Determine the fan mounting position and mark using the fixed seat. Drill mounting holes with an 18mm drill bit (hole depth >120mm) and then install the M16x150 expansion bolts to secure the fixed seat.

Accessories:

Fixed seat	1
Expansion bolt	4

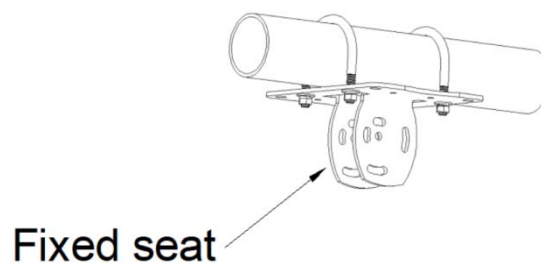
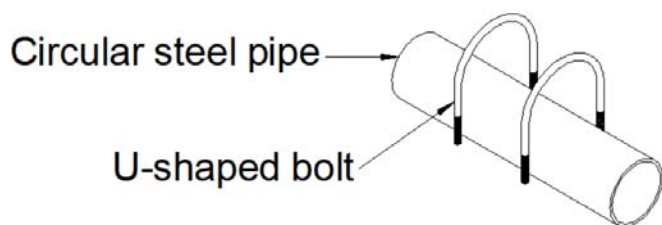


● Circular steel pipe structure

After determining the installation position, place U-shaped bolt on the round pipe, then insert the installation plate into the U-shaped bolt, and place the flat washer, spring washer and tighten nut.

Accessories:

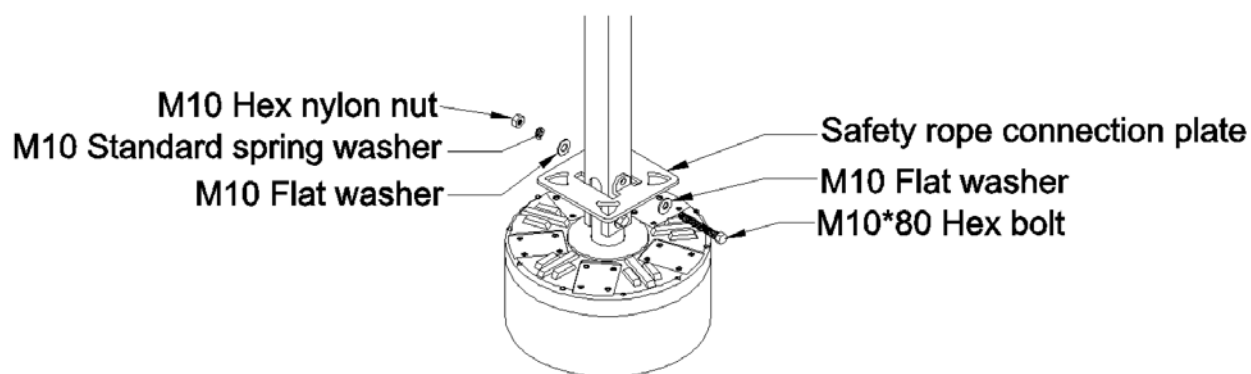
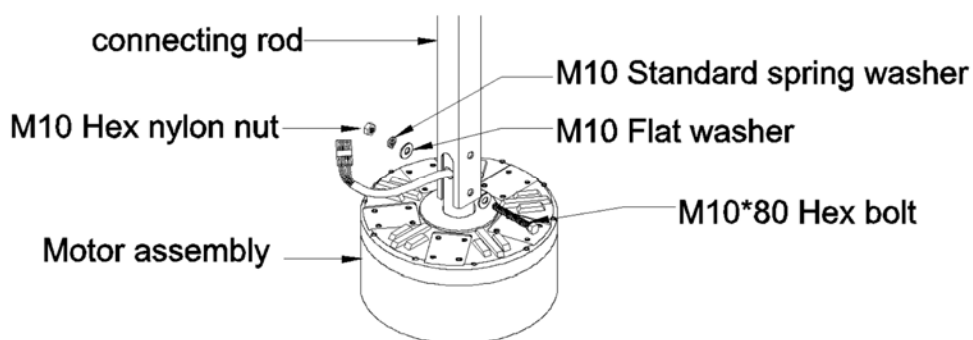
Fixed seat	1
U-shaped bolt	2
M12 Flat washer	4
M12 Standard spring washer	4
M12 Hex nylon nut	4



6.2 Install the connecting rod and safety rope connection plate on the motor ,screw it without tightening.

Accessories:

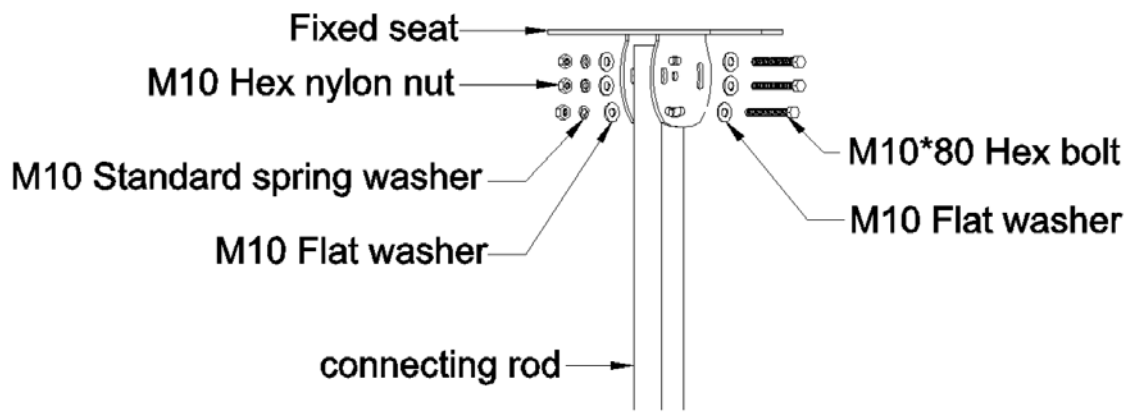
Motor assembly	1	M10*80 Hex bolt	2
Connecting rod assembly	1	M10 Flat washer	4
Safety rope connection plate	1	M10 Standard spring washer	2
M10 Hex nylon nut	2		



6.3 Install the installed connecting rod motor assembly on the fixed seat and screw it without tightening.

Accessories:

Fixed seat	1	M10*80 Hex bolt	3
Connecting rod assembly	1	M10 Flat washer	6
M10 Hex nylon nut	3	M10 Standard spring washer	3



6.4 After the motor and the connecting rod are installed, use a level to adjust the connecting rod to vertical. Then fully tighten the nuts on the top and bottom of the connecting rod.



6.5 The fixed installation of the safety rope

● Concrete beam structure

- 1) .Drill 100 mm- deep holes at 3–4 m from the four corners of the safety rope connection plate using a 12 mm drill bit.
- 2) . Insert the 12*140 expansion bolts into the holes and tighten the nuts to secure the expansion hooks firmly.
- 3). Thread two wire rope clips onto the safety rope; pass the rope through the expansion hook and back through the clips. Tighten clip nuts to secure.

Accessories:

M10*145 Eye bolt anchor	4
Safety rope	4
Wire rope clip	8



● Circular steel pipe structure

At 3-4 meters from the fan, aligned with the four corners of the safety rope connection plate. Place 2 safety rope clips onto the safety rope, and then wrap the safety rope around the suitable fixed position on the steel frame. Pass the safety rope back through the 2 safety rope clips and tighten clips nuts to secure.

Accessories:

Safety rope	4
Wire rope clip	8

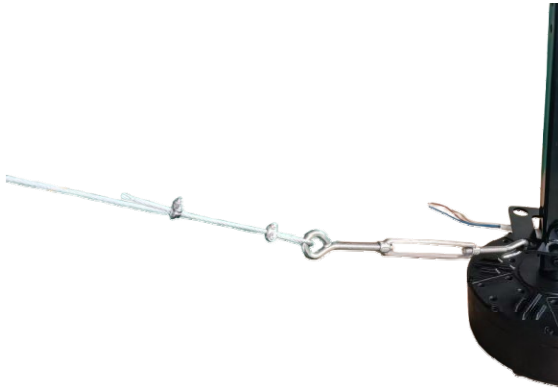


6.6 The connection between the motor and the safety rope

- 1). Open the four safety rope tensioners and extend to the maximum length.
- 2). Hook tensioners onto the safety rope connection plate, cut safety rope to the proper length.
- 3). Thread two wire rope clips onto the rope; pass the rope through the tensioner loop and back through the clips. Tighten clip nuts.
- 4). Connect and install the four safety ropes in the same sequence as the above steps.
- 5). Tighten the safety rope using the tensioners; use a level to ensure the motor is level and vertical.

Accessories:

Safety rope	4
Wire rope clip	8
Wire rope tensioner	4

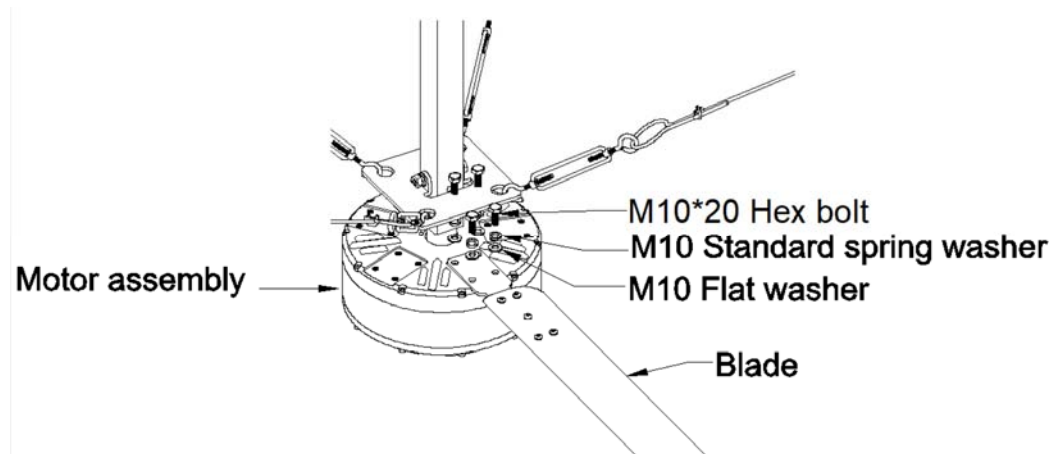


6.7 Install the Blade

Push the hairpin plate at the blade root to the bottom of the groove, so that the mounting hole on the hairpin plate with the screw hole on the motor upper end cover. Secure with bolts and washers. Install all five blades in sequence.

Accessories:

Blade	5
M10*20 Hex bolt	20
M10 Flat washer	20
M10 Standard spring washer	20



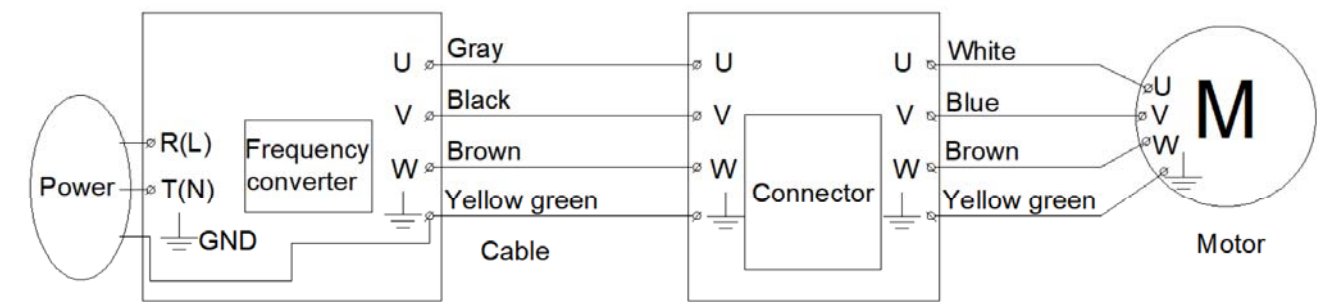
6.8 Install the Electrical cable

- 1). Insert the four-core power cord into the plastic-coated metal hose
- 2). The plastic-coated metal hose with the power cord inserted is securely fixed at the place where it passes, and is fixed with a self-locking metal fixed wire harness through the tubular structure. Use a C-type clamp to fix it through I-beams or concrete beams and columns. The interval between each fixing point should not be greater than 1.5m, and it cannot be arranged on temporary components.
- 3). Select the location to install the controller, connect the motor and the mains power to the controller as required. Check whether there are obstacles around the fan to affect its Operation and operate the fan according to the operation manual of the controller.

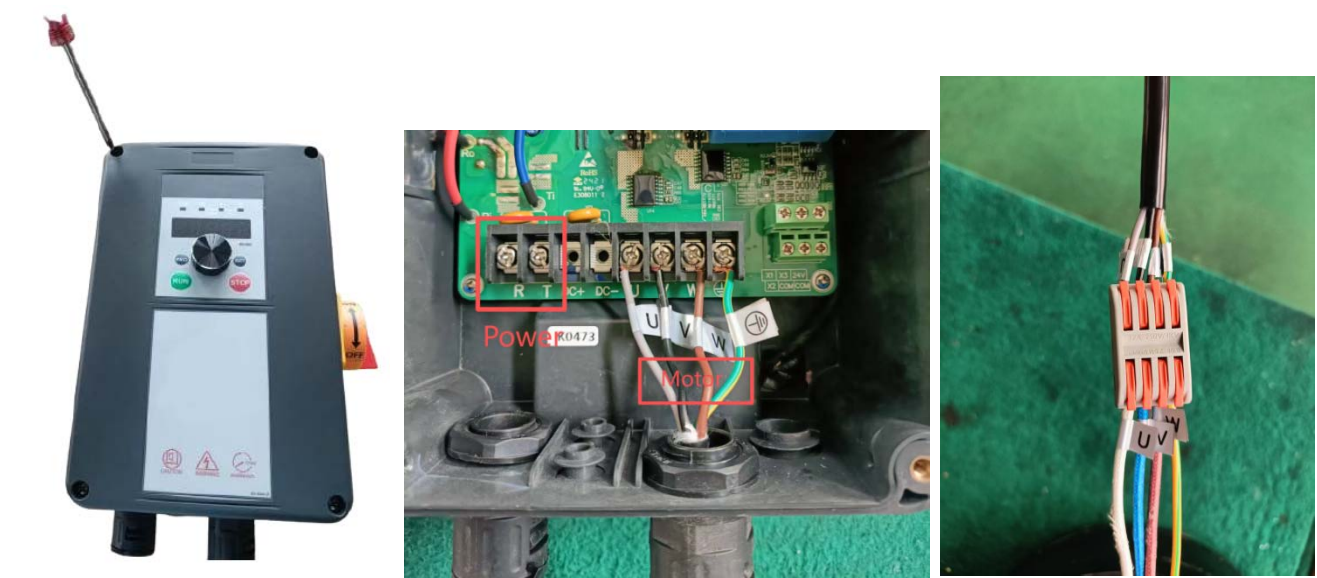
Attention: If the motor rotation is reversed, please swap the U and W phase wires inside the controller.

Accessories:

Electrical cable	1
corrugated tube	1
controller	1



Single-phase Circuit Diagram



Operating instructions of the control box



A. The power switch rotates clockwise.
ON-Turn on
OFF-Turn off



B. Controller panel operating instructions
RUN-Run button STOP stop button

Speed control : The black rotary switch rotates clockwise to accelerate and counterclockwise to decelerate.

Fault diagnosis and handling methods

Fault code description and countermeasures

Fault code	Fault name	Possible cause	processing method
E001	Accelerate over current	1. Output grounding or short circuit 2. Mutation load during acceleration 3. Low voltage	1. Check the insulation of the motor and the cables. 2. Check the load 3. Check the power supply voltage or check the bus bar voltage value
E002	Slow down over current	1. Output grounding or short circuit 2. There is a mutation load during the deceleration process 3. Low voltage	1. Check the insulation of the motor and the cables. 2. Check the load 3. Check the power supply voltage or check the bus bar voltage value
E003	Constant speed over current	1. Output grounding or short circuit 2. There is a mutation load during the operation 3. Low voltage	1. Check the insulation of the motor and the cables. 2. Check the load 3. Check the power supply voltage or check the bus bar voltage
E004	Accelerated overvoltage	1. The input voltage is too high 2. There is an external force dragging the motor in the acceleration process	1. Adjust the voltage to the normal range 2. Check the load
E005	Slow down over voltage	1. The input voltage is too high 2. There is an external force dragging the motor in the acceleration process	1. Adjust the voltage to the normal range 2. Check the load
E006	Constant speed overvoltage	1. The input voltage is too high 2. There is an external force dragging the motor during the operation process	1. Adjust the voltage to the normal voltage 2. Adjust the load or install the brake unit and the brake resistance
E007	Control power failure	1. The input voltage is not within the range specified in the specification 2. The relay does not suck	1. Adjust the voltage within normal range

E008	Underpressure failure	1. Low input voltage or poor contact contact 2. Bus voltage is abnormal 3. The relay or contactor do not engage 4. Abnormal control board	1. Check the input power supply voltage 2. Check the bus voltage value 3. Seek technical support or replace the contactor 4. Seek technical support
E010	Input the missing phase	1. Three-phase input power supply is phase deficiency 2. Drive board is abnormal	1. Check the power supply 2. Seek technical support
E011	Output lack of phase	1. The lead from the frequency converter to the motor is abnormal 2. The three-phase output imbalance or phase absence of the frequency converter 3. Drive board is abnormal 4. Abnormal module	1. Check the motors and cables 2. Seek technical support 3. Seek technical support 4. Seek technical support
E012	Short circuit to ground	1: Motor short-circuit to the ground	1: Check the motor and the cable
E014	Frequency converter overload	1. Excessive load or motor blockage	1. Check the load and the mechanical condition
E015	Motor overload	1. Excessive load or motor blockage	1. Check the load and mechanical conditions
E016	The module overheating	1. The ambient temperature is too high 2. The air duct is blocked 3. The fan is damaged 4. Damaged module superheating device	1. Improve the ambient temperature 2. Clean the air duct 3. Replace the fan 4. Seek technical support
E021	Current detection failure	1. Drive board failure	1. Seek technical support
E026	Motor identification failure	1. Parameter identification time is too long	1. Check whether the frequency converter is well connected to the motor
E028	Rapid flow limit failure	1. Excessive load or motor blockage	1. Check the motor and the load